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VEGETATION STUDIES OF ZUARINAGAR

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INTRODUCTION:

The term natural vegetation is commonly used to describe the natural plant growth as distinct from the cultivated plant growth, which covers the earth's surface. The study of vegetation constitutes a science essentially involving plant cover which is an important element of landscape and delimiter of regions. In a broad way it may be said that vegetation is essentially a response to climate. Of the climatic factors, temperature and moisture, whether by actual amount or seasonal incidence, are of dominant influence.

Recent estimates by satellite imagery shows that India's forest cover at present is 15%, which also includes the artificial plantations. It is indeed fortunate that tropical forests in the third world countries still posses some primary vegetation. However, the western industrialized countries have only denuded secondary vegetation. Most people here regret as deforestation was being done without any prior maintainance of the eco-development along with the industrial activities. The recent environmental enthusiasm and awareness may create a better move to sustain some of the remaining tropical rich flora and fauna forests.

DESCRIPTION OF ZUARI AGRO CHEMICALS LTD. AREA:

Zuari Agro Chemicals, established in 1972, is a fertilizer manufacturing firm situated on the Margao-Vasco main road, about 7 Km from Vasco city. The Zuari Agro-Chemicals compound is intersected by the main road and is a vast land of about 558 hectares (1380 acres).

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It lies at Latitude: 15°22'42" N and 15°24'06" N, and Longitude: 73°51'24" E and 73°55'08" E. The west zone of ZACL is bordered by Dabolim National Airport, to the south by Arabian sea, but only a small portion touches the sea; just at the railway loading/off-loading point, to the north it is bordered by the Zuari river and to the east by the Zuari lake/dam that provides water to the factory needs and its residents.

LIST OF IMPORTANT PLANT SPECIES FOUND AT ZUARI AGRO-CHEMICALS LIMITED - SURVEY CONDUCTED IN OCT/NOV.'91.

* Key: Tree(T); Shrub(S); Herb(H); Naturally occuring(N.O.) Cultigen (C).

Sr. No.	Taxon	Habit	Family	Chromosome number
1.	Abrus precatorius L.	S/N.O.	Fabaceae	22
2.	Dalbergia sissoo Roxb.	T/C	"	20
3.	Erythrina indica Lam.	T/C	"	42
4.	Erythrina stricta Roxb.	T/C	"	40-126
5.	Aeschynomene aspera	H/N.O.	"	20-40
6.	Atylosia scarabaeioides	H/N.O.	"	22
7.	Atylosia crassa	H/N.O.	"	20
8.	Clitoria ternatea	H/C	"	16-32
9.	Crotalaria epunctata	H/C	"	16-32
10.	Desmodium triquetrum	H/N.O.	"	22
11.	Desmodium polycarpum	H/N.O.	"	20-22
12.	Phaseolus mungo	H/N.O.	"	22
13.	Sesbania bispinosa	H/N.O.	"	12
14.	Smithia conferta	H/N.O.	"	32

15.	Tephrosia tinctoria	H/N.O.	Fabaceae	22
16.	Teramnus labialis	H/N.O.	"	28
17.	Acacia auriculiformis A. Cunn.	T/C	Mimosaceae	26
18.	Acacia arabica Willd	S/N.O.	"	44
19.	Acacia chundra Roxb.	T/N.O.	"	26
20.	Leucaena leucocephala (Lam) de Wit.)	T/C	"	36-104
21.	Pithecellobium dulce Benth.	T/C	"	26
22.	Samanea saman Willd.	T/C	"	26
23.	Mimosa pudica	S/N.O.	"	52
24.	Adenanthera pavonina L.	T/C	"	24
25.	Achras sapota L.	T/C	Sapotaceae	26
26.	Adhatoda vasica Nees.	S/N.O.	Acanthaceae	34
27.	Andrographis paniculata	H/N.O.	"	28
28.	Lepidagathis cristata	H/N.O.	"	22
29.	Lepidagathis cuspidata	H/N.O.	"	22
30.	Lepidogathis prostrata	H/N.O.	"	22
31.	Neuracanthes sphaerostachyus	H/N.O.	"	22
32.	Rungia linifolia	H/N.O.	"	20
33.	Allamanda cathartica L.	S/C	Apocynaceae	18
34.	Alstonia scholaris L.	T/N.O.	"	44
35.	Ervatamia heyneana (Wall). Cooke.	T/N.O.	"	22
36.	Holarrhena antidysenterica (Roth) DC.	S/N.O.	"	22
37.	Nerium odorum Soland.	S/C	"	22
38.	Plumeria rubra L.	T/C	"	36
39.	Thevetia peruviana Schum.	S/C	"	18

40.	Vinca rosea L.	S/C	Apocynaceae	16, 32
41.	Rauwolfia serpentina	H/N.O.	"	20
42.	Allophylus cobbe R. Br.	T/N.O.	Sapindaceae	22-32
43.	Anacardium occidentale L.	T/C	Anacardiaceae	42
44.	Buchanania lanzan Spreng.	T/N.O.	"	--
45.	Lennea coromandelica (Hout.) Merr.	T/N.O.	"	28-40
46.	Mangifera indica L.	T/C	"	40
47.	Artocarpus heterophyllus Lam.	T/C	Moraceae	28-56
48.	Ficus bengalensis L.	T/N.O.	"	26
49.	Ficus glomerata Roxb.	T/N.O.	"	26
50.	Ficus asperrima L.	T/N.O.	"	26
51.	Ficus rumphii Blume	T/N.O.	"	26
52.	Ficus elastica Roxb.	T/C	"	26
53.	Azadirachta indica Juss.	T/C	Meliaceae	30
54.	Melia azadirachta L.	T/C	"	28
55.	Naregamia alata	H/N.O.	"	-
56.	Bauhinia purpurea L.	T/C	Caesalpiniaceae	28
57.	Bauhinia variegata L.	T/C	"	28
58.	Caesalpinia pulcherrima Swarz.	T/C	"	24
59.	Cassia angustifolia Vahl.	T/C	"	26
60.	Cassia fistula L.	T/C	"	24
61.	Cassia glauca Lam.	T/C	"	28
62.	Cassia javanica L.	T/C	"	28
63.	Delonix regia Ratin	T/C	"	24
64.	Peltophorum pterocarpum (DC.)Backer	T/C	"	26-28

65.	Saraca indica	T/C	Caesalpiniaceae	24
66.	Tamarindus indica L.	T/C	"	24
67.	Wagatea spicata Dalz.	S/N.O.	"	-
68.	Barringtonia racemosa (L.) Spreng	T/N.O.	Myrtaceae	26
69.	Callistemon lanceolatus DC.	T/C	"	22
70.	Careya arborea Roxb.	T/N.O.	"	26
71.	Eucalyptus globulus Labill	T/C	"	20
72.	Psidium guajava L.	T/C	"	22
73.	Syzygium cumini (L.) Skeels	T/N.O.	"	44
74.	Bomabx ceiba Mill.	T/N.O.	Bombacaceae	88
75.	Ceiba pentandra Gaert.	T/C	"	72-80
76.	Bougainvillea spectabilis Willd.	S/C	Nyctaginaceae	20, 34
77.	Bridelia retusa Spreng. Willd.	T/N.O.	Euphorbiaceae	28
78.	Bridelia scandens (Roxb.) Spreng.	T/N.O.	"	26-28
79.	Codiceum variegatum Bl.	S/C	"	32-72
80.	Emblica officinalis L.	T/C	"	98
81.	Mallotus albus L.	T/C	"	40
82.	Phyllanthus reticulatus Poir	S/N.O.	"	26
83.	Euphorbia notoptera	H/N.O.	"	12-200
84.	Callicarpa tomentosa Murr.	T/N.O.	Verbenaceae	22
85.	Clerodendrum thomsonae Balf.	S/C	"	42, 46
86.	Gmelina arborea Roxb.	T/N.O.	"	36
87.	Lantana camara	H/N.O.	"	22, 33
88.	Calycopteris floribunda (Roxb.) Poir.	S/N.O.	Combretaceae	48

89. Quisqualis indica L. S/C Combretaceae 22, 24, 26

90. Carica papaya L. T/C Caricaceae 18

91. Casuarina equisetifolia L. T/C Casuarinaceae 18

92. Cocos nucifera L. T/C Palmaceae 32

93. Cordia sebestena L. T/C Boraginaceae 32-72

94. Flacourtia montana Graham. T/N.O. Flacourtiaceae 22

95. Grewia tilifolia Vahl. T/N.O. Tiliaceae 18-36

96. Grewia umbellifera Bedd. T/N.O. " 18-36

97. Microcos paniculata L. S/N.O. " 18-36

98. Hamelia patens Jacq. S/C Rubiaceae 24

99. Mussaenda frondosa L. S/C " 22

100. Randia dumatorum Lam. S/N.O. " 22

101. Mussaenda laxa H/N.O. " 22

102. Spermaeoce hispida H/N.O. " 28

103. Spermaeoce verticillatus H/N.O. " 56

104. Helicteres isora S/N.O. Sterculiaceae 18,24

105. Sterculia urens Roxb. T/N.O. " 40

106. Heterophragma quadrangularia T/N.O. Bignoniaceae 40

107. Millingtonia hortensis L. T/C " 30

108. Spathodea campanulata Beauv. T/C " 26

109. Hibiscus roseus Thore S/C Malvaceae 38

110. Thespesia populnea Soland T/C " 26

111. Malvastrum coromandelianum H/N.O. " 24

112. Sida rhombifolia H/N.O. " 14

113. Urena lobata H/N.O. " 28

114. Lawsonia alba L. T/C Lythraceae -

115. Lagerstroemia flosreginae Retz. T/C " 44

116.	Lagerstroemia parriflora	T/C	Lythraceae	44-50
117.	Lagerstroemia thorelli Gag.	T/C	"	44-50
118.	Roaa indica L.	S/C	Rosaceae	14
119.	Memecylon umbellatum L.	T/C	Melastomaceae	28
120.	Moringa oleifera Lam.	T/C	Moringaceae	28
121.	Strychnos collubrina L.	T/N.O.	Loganiaceae	24-28
122.	Strychnos nux-vomica L.	T/N.O.	"	24
123.	Trema orentalis Br.	T/N.O.	Ulmaceae	20-40
124.	Ziziphus mouritiana Lam.	T/N.O.	Rhamnaceae	24,40,48
125.	Ziziphus oenoplia	S/N.O.	"	20, 48
126.	Ziziphus rugosa	S/N.O.	"	20, 96
127.	Ziziphus xylopyra	T/N.O.	"	20, 96
128.	Acanthospermum hispidum	H/N.O.	Asteraceae	22
129.	Ageratum conyzoides	H/N.O.	"	20
130.	Alternanthera sessilis	H/N.O.	Amaranthaceae	34
131.	Amaranthus viridis	H/N.O.	"	28
132.	Anisochilus verticillatus	H/N.O.	Lamiaceae	-
133.	Canscora decurrens	H/N.O.	Gentianaceae	72
134.	Canscora diffusa	H/N.O.	"	72
135.	Celosia argentea	H/N.O.	Amaranthaceae	36
136.	Chromolaena odorata	H/N.O.	Asteraceae	58
137.	Cleome viscosa	H/N.O.	Capparidaceae	-
138.	Dactyloctenium aegyptium	H/N.O.	Poaceae	20
139.	Dioscorea bulbifera	H/N.O.	Dioscoreaceae	60
140.	Eriocaulon diannae	H/N.O.	Eriocaulaceae	32-64
141.	Passiflora foetida	N.O.	Passifloraceae	18
142.	Portulaca oleracea	H/N.O.	Portulacaceae	14, 18
143.	Sesamum mulayanum	H/N.O.	Pedaliaceae	26,64
144.	Ludwigia parviflora	H/N.O.	Onagraceae	16-48

CONCLUSION:

The glamour of beautiful bird population like the peacocks around the protected compound and freely moving large monkeys gives a grotesque that this formerly called "rocky Plateau" is slowly turning to a balanced ecosystem where both plant and animal communities could co-exist and replenish for their nourishment.

This is truely one of the industrial firms that has showed a good example to improve its greenery unlike most other institutions of the same kind where there has been a gradual degradation even within the protected fence.

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